

WHAT IS CLAIMED IS:

- 1 1. A wavelength selection module comprising:
2 wavelength selecting means for inputting a light,
3 multiplexing lights of a plurality of different
4 wavelengths, and selecting and outputting lights of the
5 plurality of wavelengths in accordance with a control
6 signal applied from an external circuit; and
7 demultiplexing means for demultiplexing and outputting
8 each wavelength of the output lights of said wavelength
9 selecting means.
- 1 2. The wavelength selection module according to claim 1,
2 further comprising means for inputting output lights of
3 said demultiplexing means and outputting lights of unwanted
4 wavelengths through an attenuation process.
- 1 3. The wavelength selection module according to claim 1,
2 wherein the wavelength selection means is an acousto-
3 optical tunable filter (AOTF).
- 1 4. The wavelength selection module according to claim 3,
2 wherein the AOTF includes means for selecting a light of
3 the wavelength corresponding to the frequency of an RF
4 signal applied to an inter digit transducer through an RF
5 signal input port.

1 5. A wavelength selection module comprising:
2 wavelength selecting means for selecting and
3 outputting a plurality of wavelengths from an input light
4 in accordance with an external control signal;
5 an optical filter including demultiplexing means for
6 demultiplexing output light of said wavelength selecting
7 means into lights of a plurality of wavelengths;
8 reference light source means for generating a
9 reference light for said filter; and
10 multiplexing means for multiplexing input light and
11 said reference light and inputting the multiplexed light to
12 said wavelength selecting means.

1 6. The wavelength selection module according to claim 5,
2 wherein said demultiplexing means includes monitor output
3 and control signal for controlling said wavelength
4 selecting section when the light of the wavelength of said
5 reference light source is outputted to said monitor output
6 and a control signal for controlling said wavelength
7 selecting section based on the wavelength of said reference
8 light source are controlled.

1 7. The wavelength selection module according to claim 6,
2 wherein said reference light source generates lights of a
3 plurality of wavelengths, a plurality of wavelengths
4 demultiplexed by said demultiplexing means being
5 respectively outputted to said monitor output, the control
6 signal for controlling said wavelength selecting means when
7 the light of the wavelength of said reference light source
8 is outputted to said monitor output and the control signal
9 for controlling said wavelength selecting means being based
10 on the selected wavelength of said reference light source.

1 8. A wavelength selection module comprising:
2 wavelength selecting means for inputting lights of a
3 plurality of different wavelengths;
4 branching means for branching output of said
5 wavelength selecting section to a first light and a second
6 light;
7 first filter means for inputting said second light and
8 selectively transmitting light of the particular
9 wavelength; and
10 control means for adjusting a relationship between a
11 control signal applied to said wavelength selecting means
12 and the selected wavelength on the basis of said control
13 signal, output of said first filter and transmitting
14 wavelength of said filter.

1 9. The wavelength selection module according to claim 8,
2 wherein said control means includes means for controlling
3 said control signal to continuously select the light
4 selectively transmitted through one of said first and
5 second filter with said wavelength selecting means.

1 10. The wavelength selection module according to claim 8,
2 wherein said control means includes means for controlling
3 an output of the light transmitted selectively with one of
4 said first and second filters to said first light by
5 controlling output of said control signal corresponding to
6 the light selectively transmitted by said first or second
7 filter.

1 11. The wavelength selection module according to claim 8,
2 wherein said control means includes a third filter for
3 inputting the first light and attenuating the wavelengths
4 of lights selectively transmitted by said first or second
5 filter.

1 12. A wavelength selection module comprising:
2 reference light source means for providing a constant
3 output wavelength;
4 multiplexing means for multiplexing input light
5 including lights of a plurality of different wavelengths
6 and output light of said reference light source;
7 wavelength selecting means for inputting output light
8 of said multiplexing means and selecting and outputting
9 lights of a plurality of wavelengths in accordance with an
10 external control signal;
11 branching means for branching output of said
12 wavelength selecting means into a first light and a second
13 light;
14 a first filter for inputting said second light and
15 selectively transmitting light of the wavelength of output
16 light from said reference light source; and
17 control means for adjusting a relationship between the
18 control signal applied to said wavelength selecting means
19 and the selected wavelength in accordance with said control
20 signal, output of said first filter and wavelength of said
21 reference light source.

1 13. The wavelength selection module according to claim 12,
2 wherein said control means includes means for controlling
3 said control signal to continuously select the light
4 selectively transmitted through one of said first and
5 second filter with said wavelength selecting means.

1 14. The wavelength selection module according to claim 12,
2 wherein said control means includes means for controlling
3 an output of the light transmitted selectively with one of
4 said first and second filters to said first light by
5 controlling output of said control signal corresponding to
6 the light selectively transmitted by said first or second
7 filter.

1 15. The wavelength selection module according to claim 12,
2 wherein said control means includes a third filter for
3 inputting the first light and attenuating the wavelengths
4 of lights selectively transmitted by said first or second
5 filters.

1 16. A wavelength selection module comprising:
2 first and second reference light source means for
3 outputting a constant output wavelength;
4 multiplexing means for multiplexing input light
5 including lights of a plurality of different wavelengths
6 and output lights of said first and second reference light
7 source means;
8 wavelength selecting section for inputting output
9 light of said multiplexing means and selecting and
10 outputting lights of a plurality of wavelengths in
11 accordance with an external control signal;
12 branching means for branching output of said
13 wavelength selecting means to the first to third lights;
14 first filter means for inputting said second light and
15 selectively transmitting light of the output light
16 wavelength of said first reference light source;
17 second filter means for inputting said third light and
18 selectively outputting light of the output light wavelength
19 of said second reference light source; and
20 control means for adjusting a relationship between the
21 control signal applied to said wavelength selecting means
22 and the selected wavelength based on the relationship among
23 said control signal, output of said first filter and
24 wavelength of said first reference light source and the
25 relationship among said control signal, output of said
26 second filter and wavelength of said second reference light
27 source.

1 17. The wavelength selection module according to claim 16,
2 wherein said control means includes means for controlling
3 said control signal to continuously select the light
4 selectively transmitted through one of said first and
5 second filters with said wavelength selecting means

1 18. The wavelength selection module according to claim 16,
2 wherein said control means includes means for controlling
3 an output of the light transmitted selectively with one of
4 said first and second filters to said first light by
5 controlling output of said control signal corresponding to
6 the light selectively transmitted by said first or second
7 filter.

1 19. The wavelength selection module according to claim 16,
2 wherein said control means includes a third filter for
3 inputting the first light and attenuating the wavelengths
4 of lights selectively transmitted by said first or second
5 filter.

1 20. A method of effecting wavelength selection comprising:
2 inputting a light, multiplexing lights of a plurality
3 of different wavelengths, and selecting and outputting
4 lights of the plurality of wavelengths with a wavelength
5 selecting means in accordance with a control signal applied
6 from an external circuit; and
7 demultiplexing and outputting each wavelength of the
8 output lights of said wavelength selecting means with
9 demultiplexing means.